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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/762,126	02/02/2001	Shinji Miwa	P5276b	1392

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EXAMINER

BLACKWELL, JAMES H

ART UNIT PAPER NUMBER

2176

DATE MAILED: 01/19/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/762,126	Applicant(s) MIWA ET AL.	
	Examiner James H. Blackwell	Art Unit 2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 12 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-9, 11, 13, 15 and 20-31 is/are pending in the application.
- 4a) Of the above claim(s) 1-6, 10, 12, 14 and 16-19 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-9, 11, 13, 15 and 20-24 is/are rejected.
- 7) ☒ Claim(s) 25-31 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 02 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to Response C received on 10/12/2005 with an original priority date of **06/04/1999**.
2. Claims 7-9, 11, 13, 15, and 20-31 are pending.
3. Claims 24-31 are new.
4. Claims 1-6, 10, 12, 14 and 16-19 are cancelled.
5. Rejections of Claims 10-11, 14, 16-17 and 20-21 under 35 U.S.C. 101 have been rendered moot by both cancellation and amendment of pending claims.

Allowable Subject Matter

6. Claims 25-31 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 7-9, 11, 13, 15, 20-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zamir et al. (hereinafter Zamir, "Web Document Clustering: A

Feasibility Demonstration", ACM, August 1998) in view of Caid et al. (hereinafter Caid, U.S. Patent No. 5,619,709 filed 11/21/1995, issued 04/08/1997).

In regard to independent Claim 7 (and similarly independent Claims 11 and 13), Zamir teaches that a *cluster merging process is performed such that relations among clusters of said plurality of clusters are evaluated on the basis of documents included in the respective clusters* in that step (2) of the STC algorithm, the identification of base clusters can be viewed as the creation of an inverted index of phrases for our document collection. This is done efficiently using a data structure called a suffix tree. This structure can be constructed in time linear with the size of the collection, and can be constructed incrementally as the documents are being read (p. 48, Col. 1, Sec 3.2, lines 43-49). Each base cluster is assigned a score that is a function of the number of documents it contains, and the number of words that make up its phrase (p. 48, Col. 2, Sec 3.2, lines 30-32).

Zamir also teaches *two or more clusters having a degree of relation equal to or higher than a predetermined value are combined together* in that the final step of the STC algorithm merges base clusters with a high degree of overlap in their document sets (p. 49, Col. 1, lines 19-21).

Zamir fails to teach that *said cluster merging process defines said degree of relation between multiple clusters under consideration as the number of distinct files common to all of said clusters under consideration multiplied by a predefined multiplication factor divided by a total sum of all the files in said clusters under consideration*. However, since what is claimed is simply a variation of Dice's coefficient,

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one of many similarity measures that are commonly known in the art, it would have been obvious to one of ordinary skill in the art at the time of invention to use any one of the possible similarity measures to assist in determining whether or not two clusters should be combined.

Zamir also fails to specifically teach that *said cluster names are displayed in a first listing format, and when said degree of relation among said clusters is lower than said second predetermined value and higher than said first predetermined value, said cluster names are displayed in a second listing format*. However, Caid teaches a number of display methods for groupings or clustering results that take into consideration degrees of relative similarity between entities (see Figs. 5-9, 14-24).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Zamir and Caid as both inventions relate to grouping documents based on their similarities. The addition of Caid provides the benefit of a method of presenting the document hierarchies as a function of similarity that is more easily understood.

In regard to dependent Claim 8, Zamir fails to teach that *when said cluster names are displayed in said first listing format, said cluster names of the respective clusters are displayed successively in a single horizontal line, or are displayed successively in different lines; and when said cluster names are displayed in said second listing format, a delimiter is inserted between adjacent cluster names of the respective clusters*. However, Caid teaches a number of display methods for groupings

or clustering results that take into consideration degrees of relative similarity between entities (see Figs. 5-9, 14-24).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Zamir and Caid as both inventions relate to grouping documents based on their similarities. The addition of Caid provides the benefit of a method of presenting the document hierarchies as a function of similarity that is more easily understood.

In regard to dependent Claim 9, Zamir fails to teach that *when a first cluster includes a second cluster therein, the name of said second cluster included in said first cluster is enclosed within brackets and placed after the name of said first cluster.* However, Caid teaches a number of display methods for groupings or clustering results that take into consideration degrees of relative similarity between entities (see Figs. 5-9, 14-24). It would have been obvious to one of ordinary skill in the art at the time of invention to combine the teachings of Zamir and Caid as both inventions relate to grouping documents based on their similarities. The addition of Caid provides the benefit of a method of presenting the document hierarchies as a function of similarity that is more easily understood.

In regard to dependent Claim 15 (and similarly dependent Claims 20 and 22), Claim 15 (and similarly Claims 20 and 22) teach methods for categorizing documents as taught in Claim 7 (and similarly Claims 11 and 13) and are rejected along the same rationale.

In regard to dependent Claims 21 (and similarly dependent Claim 23), Claim 21 (and similarly Claim 23) teach methods for categorizing documents as taught in Claim 8, and are rejected along the same rationale.

In regard to independent Claim 24, Claim 24 reflects the document categorizing method of Claim 7 (and similarly Claims 11 and 13) and is rejected along the same rationale.

In addition, Zamir teaches *obtaining a plurality of clusters of documents, each cluster having a distinctive name* (see Pg. 47, Fig. 1 clusters are uniquely identified (named) by number).

Zamir also teaches *assigning a new name to said new combined cluster based on the degree of relation between its constituent evaluated clusters* (see Pg. 48, Fig. 2 combined clusters are labeled a-e).

Response to Arguments

9. Applicant's arguments, see Response C, filed 10/12/2005, with respect to the rejection(s) of claim(s) 7, 11 and 13 under Zamir in view of Wu have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Caid et al., which generally relates to the display of documents in a plurality of ways based on relative similarity and renders the display of clustering results obvious to one of ordinary skill in the art at the time of invention

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James H. Blackwell whose telephone number is 571-272-4089. The examiner can normally be reached on Mon-Fri.

11. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Heather R. Herndon can be reached on 571-272-4136. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

12. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

James H. Blackwell
01/18/2006

William L. Bashore
WILLIAM BASHORE
PRIMARY EXAMINER
1/18/2006